DECENTRALIZATION MAPPING TOOL

SYNTHESIS REPORT OF FIELD TESTS IN JAMAICA AND THE DOMINICAN REPUBLIC

LAC HEALTH SECTOR REFORM INITIATIVE

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INTRODUCTION

The USAID-sponsored LAC Health Sector Reform (LACHSR) Initiative (1997–2004) provides regional support to national health sector reform processes in Latin America and the Caribbean. Its main aim is to improve capacity in both the public and private sectors of LAC target countries to address and implement health reforms and to strengthen health system performance. The LACHSR Initiative was designed to focus benefits on 14 target countries: Bolivia, Brazil, Colombia, Ecuador, El Salvador, the Dominican Republic, Guatemala, Guyana, Haiti, Jamaica, Mexico, Nicaragua, Paraguay, and Peru.

Management Sciences for Health (MSH) is one of the partners of the LACHSR Initiative through the Management & Leadership (M&L) cooperative agreement. MSH has focused its activities under the Initiative on decentralization, one of the key concerns within the broad thematic area of organization and management of health care. The focus of MSH's work has been the Decentralization Mapping Tool (DMT). The DMT maps out how managers at different levels of a decentralized or decentralizing health system (or organization) perceive that management responsibility and authority are distributed between different management levels.

The DMT is an adaptation of the Decentralization Planning Tool (DPT) that MSH developed in 1999 with funding from the second Family Planning Management Development project (FPMD II). At that time, MSH shared the DPT through its Web site, but funding to field-test it was not available. Anecdotal positive feedback about the usefulness of the DPT at the country level was, however, received from individuals who downloaded it from the Web site.[1] Funding from the LACHSR Initiative allowed MSH to field-test and refine this potentially very useful management tool. At the end of 2002, MSH staff reviewed the DPT and its possible uses. The tool was extensively modified and renamed the Decentralization Mapping Tool (DMT) to better reflect its intended use. At the same time, the methodology to field-test the revised tool at the country level was designed.

The first field test of the DMT took place in Jamaica in March 2003 at the invitation of Dr. Marjorie Holding-Cobham, Director of Policy, Planning, and Development in the Ministry of Health, who provided excellent support to the MSH team. [2] The second field test was conducted in the Dominican Republic in June 2003.[3] MSH worked in close collaboration with other LACHSR Initiative partners in planning and conducting the field tests and in revising the DMT on the basis of lessons learned in the field. MSH staff are particularly appreciative of the support that the REDSALUD project team of Abt Associates provided to the field test in the Dominican

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[1] In 2003, MSH became aware that the original DPT had also been used in 2000 to assess decentralization in the Dominican Republic. See José Arbeláez, "Evaluación de la Descentralización en la República Dominicana." (Cambridge, MA: Abt Associates, Inc.), August 2000.

[2] Riitta-Liisa Kolehmainen-Aitken, "Decentralization Mapping Tool: Its Evolution and the Jamaica Field Test" (Boston, MA: Management Sciences for Health), April 24, 2003.

[3] Lourdes de la Peza, "Decentralization Mapping Tool: The Dominican Republic Field Test" (Boston, MA: Management Sciences for Health), Management and Leadership Program, June 30, 2003.

Republic. Dr. Thomas Bossert of the Harvard School of Public Health acted as an external reviewer of the DMT, after the tool was further refined in the field.

The DMT is now ready for application at the country level. This synthesis report introduces the tool and shares the results of the field tests. The report starts by describing the tool itself and its intended uses. It briefly describes the evolution of the DMT from its earliest form to the current version, highlighting the most important changes that took place before the start of the first field test and as a result of both tests. The report then explains critical aspects of the methodology of applying the DMT at a country level and of analyzing the field results.

The next section describes the field tests in Jamaica and the Dominican Republic. The main findings about health sector managers' perceptions of decentralized management roles in these two countries demonstrate the type of information that the DMT can reveal. These findings should be interpreted with caution. The purpose of using the DMT in these countries was to field-test the tool and the methodology of its application. A full and representative analysis of health managers' perceptions about decentralized management in Jamaica and the Dominican Republic would have required a different methodology and/or a much wider application of a uniform tool.

The penultimate section of the report describes the most important lessons learned about the tool and its application that the field tests provided. The report concludes by outlining future directions for MSH's work with the DMT under the LACHSR Initiative.

THE DECENTRALIZATION MAPPING TOOL

The DMT maps out health sector managers' perceptions about the way management responsibility and authority are distributed between different management levels. It is based on a functional analysis of a health system and consists of a set of matrices, one for each functional area of a health system. The seven functional areas are:

- health service delivery
- financial resources
- personnel
- drugs, vaccines, and supplies
- equipment and transport
- construction and maintenance
- health information

The matrix of each functional area includes the following columns and as many rows as necessary. The columns are:

- function
- determining questions
- management levels (one column for each level)
- comments

The functions column is used to list all functions that are crucial for managing the functional area in question. The determining questions column consists of a set of questions that help determine which management level(s) is perceived by the managers to have the responsibility for or authority over each function. These questions focus only on management issues that decentralization is likely to affect. They are not intended to represent all issues related to management. The determining questions are expressed as closed questions, insofar as possible, in order to increase the clarity of responses. Each management level (i.e., national, regional, provincial, and facility) is given its own column in which to note with a check mark informants' responses about the perceived level of responsibility or authority. Finally, the comments column provides space for writing down relevant comments that the informants make about each function.

An example of the matrix for Health Service Delivery is shown on the following page.

TABLE 1: HEALTH SERVICE DELIVERY MATRIX (EXAMPLE)

FUNCTIONAL LEVEL: HEALTH SERVICE DELIVERY						
FUNCTION	DETERMINING QUESTIONS	NATIONAL	REGIONAL	PARISH	FACILITY	COMMENTS
S1. Defining health service targets	What level sets health service targets for the operational level?					
S2. Defining service packages	What level determines the minimum service package for each level of care?					
S3. Defining the service network	What level determines the organization of the health service network?					
S4. Defining and supervising clinical standards and procedures	What level determines clinical standards and procedures?					
	What level is responsible for ensuring compliance with those standards at the operational level?					
S5. Monitoring health service provision	What level is responsible for ensuring the achievement of health service targets at the operational level?					
S7. Outsourcing services	What level has the authority to outsource clinical/technical services?					
	What level has the authority to outsource support services?					
	What level is responsible for ensuring compliance by those who deliver outsourced services?					

USES OF THE DECENTRALIZATION MAPPING TOOL

The DMT has four important uses. Policymakers and managers can use it to:

- assess the degree of agreement among health managers at different levels of a health system (or health organization) about the way responsibility for and authority over management functions are currently distributed among these management levels;

- examine at different points in time whether the distribution of management responsibility and authority between the management levels has shifted in the desired direction and whether the clarity of management roles has improved;

- compare health managers' current understanding of their responsibility and authority with the decentralization design;

- inform and develop the decentralization agenda where such a design is unclear or does not yet exist, by revealing managers' current perceptions.

The DMT is not intended for assessing whether the current distribution of responsibility and authority among management levels is appropriate to meeting health system goals. It is also not designed to assess whether the decentralized distribution of management roles has improved or worsened health system performance. The DMT does, however, capture all comments that managers make about decentralization's impact on the functioning of the health system (or organization). These comments can be very useful for pinpointing problem areas.

EVOLUTION OF THE DECENTRALIZATION MAPPING TOOL

From the DPT to the DMT

Developed in 1999, the Decentralization Planning Tool (DPT) was based on a functional analysis of a health system. It covered six functional areas: financial resources, human resources, drugs and supplies, equipment and infrastructure, health service delivery, and health information systems. The DPT was conceived as an instrument to help determine where responsibilities for management functions currently reside or would reside after decentralization. The results were expressed (in percentages) as the perceived degree of decentralization for each function or functional area.

The DPT was in Microsoft Word format. It consisted of instructions and three matrix tables that built on each other. The first table ("Analysis of Functions and Their Management") spelled out in a short summary description how each function is or would be managed. Managers' estimates of the degree of decentralization of each function to a particular management level (in percentages) were recorded in the second table ("The Degree of Decentralization of Functions by Management Level"). The third table ("The Degree of Decentralization of Functional Areas by Management Level") gave a summary estimate (in percentages) for each functional area. A

system of shading was used in the second and third tables to represent visually the degree of decentralization of a particular function across management levels.[4]

In preparation for the first field test of the tool, the MSH team spent considerable time reviewing its potential uses. The DPT had been designed as a tool for assessing a system's or organization's degree of decentralization. The MSH team agreed that a more practical and useful application for the tool would be as an aid to assessing the degree of consensus among managers about the distribution of responsibility and authority. After some discussion, it was also agreed that the tool should focus on assessing current perceptions, rather than on evaluating whether or not the perceived distribution had improved the delivery and management of health services. While the latter was seen as very important, the considerable confusion of roles that often accompanies decentralization was seen as a sufficiently grave concern to deserve focused attention.

The DPT was revised extensively. It was renamed the Decentralization Mapping Tool (DMT) and converted into Microsoft Excel. The revised tool was targeted at assessing the consensus among managers at different management levels about the way responsibility and authority are distributed among these levels. A column was added for "determining questions" that help define which management level the managers perceive to have responsibility for or authority over each management function. To capture the richness of the focus group discussions, a second column was added to record any relevant comments that the managers make. Annex 1 shows the result of the revision: the first version of the DMT that was used for the first field test in Jamaica. It is worth noting that in this first field-test version, the DMT included 97 determining questions.

From starting in Jamaica to finishing in the Dominican Republic

The DMT was refined between the two sets of field tests in Jamaica, and again at the end of the Jamaica testing. Next, Dr. Thomas Bossert of the Harvard School of Public Health reviewed the DMT. His suggestions that maintained the tool's original intention were incorporated in the revision. Before starting the field test in the Dominican Republic, the REDSALUD project staff adapted the DMT to the local context. The tool underwent a final refinement at the end of the field test in the Dominican Republic.

The main revisions in Jamaica consisted of:

- eliminating questions that were found not to be relevant for decentralization;
- improving the wording of functions and determining questions that proved unclear to focus group participants;

[4] For a more detailed discussion of the Decentralization Planning Tool and its evolution, see Riitta-Liisa Kolehmainen-Aitken, "Decentralization Mapping Tool: Its Evolution and the Jamaica Field Test" (Boston, MA: Management Sciences for Health), April 24, 2003.

- changing the order in which the functional areas are listed in the tool so that the DMT now starts with the Health Service Delivery functional area;

- adding two functions that the local managers saw as important, “Legal Protection of Staff and Management in Case of Labor-Related Lawsuits” and “Acquiring and Managing Transport.”

In the Dominican Republic, a few more questions were eliminated, reducing the final number of determining questions to 84. The language was sharpened further and focused on decision-making in order to ensure that the questions were understood by everyone in the same way and that they pertained clearly to key responsibility and authority roles. The most important change that resulted from the Dominican Republic field test, however, related not to the tool itself, but to the way the results are analyzed. The analysis methodology is discussed in further detail in the next section.

METHODOLOGY USED TO APPLY THE DMT AND ANALYZE THE RESULTS

Methodology of field application

The DMT was applied through focus group discussions at each management level. Each focus group was multidisciplinary and composed of managers working at the same management level. The discussions were held in a location that was most convenient for these managers, usually close to their workplace. Each group was asked the same determining questions on the DMT form. The responses of staff in higher management levels were not shared with those in lower ones before the discussions.

A team of two MSH staff managed each focus group. One person acted as the discussion leader and the other as the scribe. The discussion leader asked the focus group to respond to one determining question at a time. The questions were discussed in the order in which they appear on the DMT form. The leader could clarify the question with an example, if necessary. The scribe noted the consensus response of the focus group members to each question. A check mark was placed in one or several of the management-level columns to record consensus about which management level(s) was perceived to have responsibility for or authority over a particular function or subfunction. Any relevant comments that the focus group members made were written in the “Comments” cell linked to each determining question.

The focus group discussions generally lasted from one to two hours. The length of time it took to administer the DMT depended on both the clarity of the determining questions and the degree of disagreement about the answers among the group members. As the DMT was progressively refined over the course of the field tests, the questions became more focused, and less time was needed to clarify them.

Analysis methodology

The opportunity to test the DMT in two countries in very different stages of their decentralization process generated two complementary analysis methods. The first method is

designed to analyze the extent of consensus between focus groups about the management level(s) that have responsibility for or authority over each function. A set of templates and a reporting format for this type of analysis were developed at the end of the Jamaica field test. The second method assesses the consensus of focus groups regarding whether a particular function is perceived by them to be decentralized or centralized. This method was developed at the end of the second field test in the Dominican Republic.

The steps of the first type of analysis (i.e., consensus about management levels with responsibility or authority) are described below. (See Table 2 for an example of a data analysis form filled in for both types of analyses in one functional area.)

Step 1 (Preparation): On the data analysis form, write down the name of the country (e.g., the Dominican Republic), the organization representing the national level (e.g., SESPAS), and the name of the levels for which you are analyzing the data (e.g., Region V). Write the names of all the management levels at which you conducted the focus group interviews under "Administration Level (Reporting Level)."

Step 2 (Coding of the management level): First, decide what code you will use to represent the different management levels. In the Table 2 example, (N) was used to denote the national level, (R) the regional level, (P) the province level, and (F or E) the health facility level (in English and Spanish versions, respectively). Second, using this code, transfer from data collection forms to the data analysis form every focus group's answers regarding the management level(s) at which the group perceives each function to be handled. You find these responses indicated by check marks in the management level column(s) of the data collection form. Note that there may be one or more check-marked responses to each determining question.

Step 3 (Comments): Copy the comments that each focus group made regarding a management function (if any). You find these in the "Comments" cell of the data collection form. Paste the comments on the data analysis form into the cell that corresponds to that management function, following the code that you recorded in Step 2.

Step 4 (Comparison): On the data analysis form, examine the degree of agreement in the responses of the different focus groups to each determining question.

Step 5 (Visual representation): Color-code each summary cell of a determining question in the data analysis form to provide a visual representation of the results. Use green when there is total agreement between the focus groups. Use red when there is total lack of agreement. Depending on the number of focus groups, use yellow and/or orange to code intermediate levels of consensus.

Step 6 (Written summary): Write a short explanation in the summary cell of each determining question that describes the focus groups' perception of who has the responsibility or authority (e.g., "National level says National; the region says National and Region; both provinces say themselves.")

Step 7 (Graphic representation): For each functional area, count the number of cells of each color. Graph these results as a pie chart, one for each functional area. See Figure 1 for an example of this type of analysis graph.

The second type of analysis looks at the focus groups' opinion about the level of decentralization that has been achieved. This analysis takes place through the following steps, after the first type of analysis outlined above.

Step 8 (Assessment of the perception): Examine the summary cell of each determining question in the data analysis form to see which management levels are perceived in Step 2 above to have responsibility or authority.

Step 9 (Recording): If all focus groups agree that the answer is the national level, the particular subfunction is "centralized." Conversely, if all agree that the responsibility or authority belongs to the lower levels, it is "decentralized." If the focus groups disagree with each other, the subfunction is "confused." If all say that a particular subfunction is not performed by anyone, it "does not exist." Record the appropriate response (i.e., centralized/decentralized/confused/does not exist) in the summary cell after the written summary that was inserted in Step 6.

Step 10 (Visual representation): Color-code each summary cell of a determining question in the data analysis form to provide a visual representation of the results. Use red for "centralized," blue for "decentralized," pink for "confused," and white for "does not exist."

Step 11 (Graphing): For each functional area, count the number of cells of each color. Represent these results as a pie chart, one for each functional area. See Figure 2 for an example of an analysis graph.

TABLE 2. DATA ANALYSIS FORMAT FOR ANALYZING CONSENSUS ABOUT MANAGEMENT LEVELS WITH RESPONSIBILITY OR AUTHORITY (EXAMPLE OF ONE FUNCTIONAL AREA)

Country: DOMINICAN REPUBLIC
Institution: SESPAS
Management Level: REGION V

FUNCTIONAL LEVEL: HEALTH SERVICE DELIVERY

Function 1. Defining health service targets			
Administration Level (Reporting Level)	**Determining Questions**		
	What level sets health service targets for the operational level?		
National	(N) Technical Sub-Secretariat		
Regional	(N)		
Province of Hato Mayor	(N)		
Province of El Seibo	(N)		
Hospitals of Hato Mayor	(N)		
Summary	**All say National/Centralized**		

Function 2. Defining service packages			
Administration Level (Reporting Level)	**Determining Questions**		
	What level determines the minimum service package for each level of care?		
National	(N)		
Regional	(N)		
Province of Hato Mayor	(F) Question not understood		
Province of El Seibo	(N) National defines, province adapts		
Hospitals of Hato Mayor	(N)		
Summary	**All say National/Centralized**		

Function 3. Defining the service network			
Administration Level (Reporting Level)	**Determining Questions**		
	What level determines the organization of the health service network?		
National	(N)		
Regional	(N)		
Province of Hato Mayor	(N)		
Province of El Seibo	(N)		
Hospitals of Hato Mayor	(N)		
Summary	**All say National/Centralized**		

Function 4. Defining and supervising clinical standards and procedures			
Administration Level (Reporting Level)	**Determining Questions**		
	What level determines clinical standards and procedures?	What level is responsible for ensuring compliance with those standards at the operational level?	
National	(N)	(N, R & P) National supervises regions and provinces supervise the facilities	
Regional	(N) Directorate of Primary Care	(N, R & P) National supervises regions and provinces supervise the facilities	
Province of Hato Mayor	(N)	(P & F)	
Province of El Seibo	(N)	(P & F) Hospital for itself, province for facilities	
Hospitals of Hato Mayor	(N)	(P)	
Summary	**All say National/Centralized**	**National and regional say National, Region, and Province; province says Province and Hospital; hospital says Province. Confused.**	

Function 5. Monitoring health service provision			
Administration Level (Reporting Level)	**Determining Questions**		
	What level is responsible for ensuring the achievement of health service targets at the operational level?		
National	(N, R & P) National supervises regions and provinces facilities		
Regional	(N, R & P) Every program		
Province of Hato Mayor	(N & P) National for province, province for facilities		
Province of El Seibo	(P & F) Hospital for itself, province for rural facilities		
Hospitals of Hato Mayor	(N, R & P) National supervises regions and provinces facilities		
Summary	**National level, region, and hospital say National for region and Region for province; one province omits the region and the other says that hospitals supervise themselves and the province rural facilities. Confused.**		

Function 6. Outsourcing services			
Administration Level (Reporting Level)	**Determining Questions**		
	What level has the authority to outsource clinical/technical services?	What level has the authority to outsource support services?	What level is responsible for ensuring compliance by those who deliver outsourced services?
National	Does not exist (Law 87/01 on Social Security is not yet in operation)	Does not exist (Law 87/01 on Social Security is not yet in operation)	Does not exist (Law 87/01 on Social Security is not yet in operation)
Regional	Does not exist	Does not exist	Does not exist
Province of Hato Mayor	Does not exist	Does not exist	Does not exist
Province of El Seibo	Does not exist	Does not exist	Does not exist
Hospitals of Hato Mayor	Does not exist	Does not exist	Does not exist
Summary	**No local authority/Does not exist**	**No local authority/Does not exist**	**No local authority/Does not exist**

FIGURE 1.

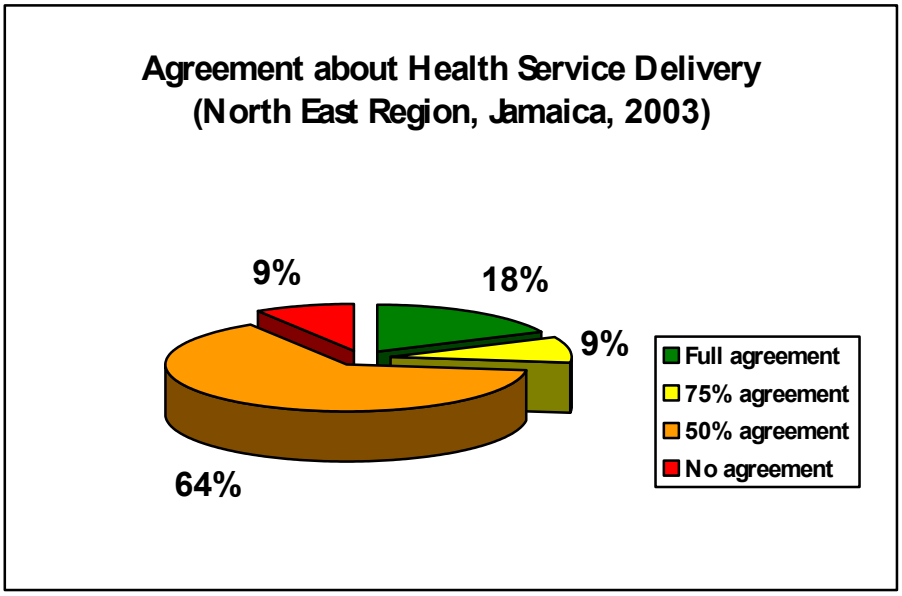
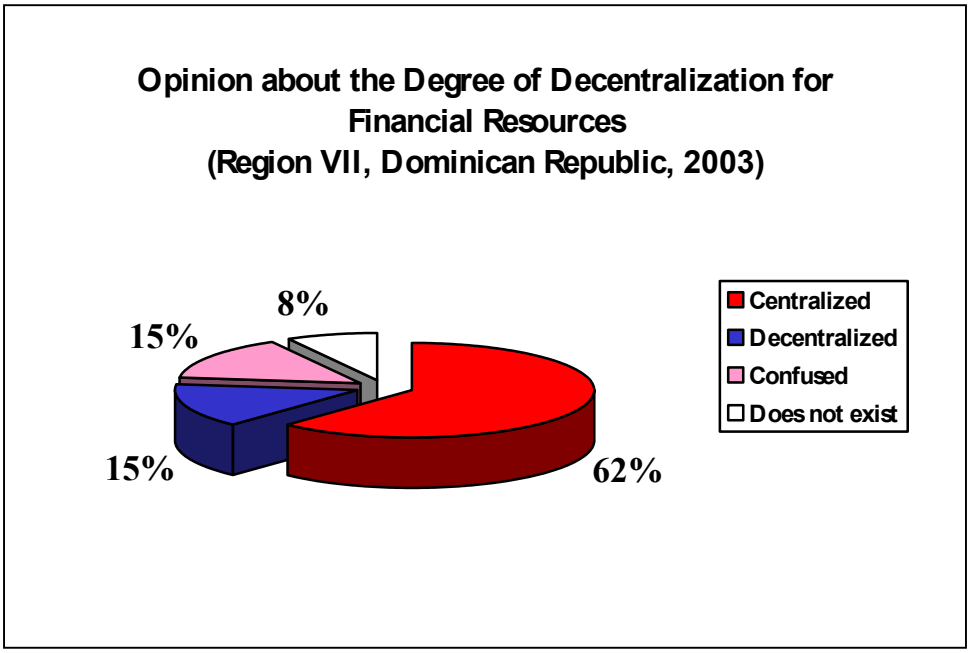


FIGURE 2.



Testing the DMT

In Jamaica, the field test took place in two of the country's four regions. In the North East Region, focus group discussions were held at the regional office and in three parish offices (Portland, St. Ann's, and St. Mary's). The three focus groups in the South East Region took place in the regional office, St. Catherine's parish, and the Kingston General Hospital. Collecting the perceptions of national-level managers proved not to be possible. Data were analyzed and presented to the Ministry of Health before the MSH team's departure from Jamaica. All raw data, analyses, and the final presentation to the Ministry of Health were put on a CD-ROM. Copies of the CD-ROM were made available to the heads of all the management levels that were part of the field test, as well as to senior managers at the Ministry of Health and USAID/Jamaica.

In the Dominican Republic, the DMT was adapted to that country's context with the help of the REDSALUD project staff before beginning the study. The field test itself started with a short informational meeting with key officials of the Secretariat of Public Health and Social Assistance (SESPAS). This meeting was followed by individual interviews or group discussions with central-level officials in charge of each functional area in the DMT. The output of these discussions was a completed DMT that represented the perceptions of the central-level managers.

The perceptions of lower-level managers in the Dominican Republic were collected from two regions, Region V and Region VII. In Region V, the USAID-funded REDSALUD project has helped strengthen the management capacity of local-level staff. Region VII, in contrast, has received little technical assistance to support the decentralization process. The DMT matrices were filled in through focus groups discussions and, in two cases, through individual interviews when it was not possible to arrange a focus group. Region V managers' perceptions were collected from the regional level, two provinces (Hato Mayor and El Seibo), and the hospitals of Hato Mayor. In Region VII, the four focus groups covered the regional office, provinces of Monte Cristi and Dajabón, and the hospitals of the two provinces. The data were analyzed before the MSH team's departure from the country. The findings were reported in a meeting with representatives from the central and regional levels of SESPAS, the Executive Commission for Health Sector Reform (CERSS), USAID/Dominican Republic, and the REDSALUD project. As in Jamaica, the DMT, the data analyses, and MSH's final presentation were saved on a CD-ROM, and copies made available to all interested parties.

Main findings from the Jamaica field test

As mentioned before, the DMT was revised between the first and second set of focus group interviews in Jamaica, and national-level data collection was not possible. The results from the two regions are thus not exactly comparable with each other, and cannot be contrasted with views held by national managers. The use of the DMT did, however, reveal some interesting patterns regarding the areas about which the focus groups had little or no consensus. These areas include the following:

- **Health service delivery:** Organizing service delivery, and supervising compliance with clinical standards;

- **Financial resources:** Changing monies between over- and underspent budget lines, and defining cost centers;

- **Personnel:** Assessing personnel development needs;

- **Drugs, vaccines, and supplies:** Monitoring compliance with drug protocols;

- **Equipment:** Defining how donations are managed;

- **Infrastructure:** Planning infrastructure development;

- **Health information:** Determining hardware and software needs.

Main findings from the Dominican Republic field test

In the Dominican Republic, the field results were first analyzed for the extent of consensus about management responsibility and authority. The main findings are listed below.

- **Health service delivery:** As in Jamaica, there was no consensus on supervising compliance with clinical standards.

- **Financial resources:** National and regional levels stated that hospitals are not accountable for their user fees, whereas the provinces and the hospitals themselves said that they are indeed accountable to the national level.

- **Personnel:** There was considerable disagreement over the authority for defining and applying disciplinary measures, approving transfers, and granting leave to employees. In contrast, there was total consensus about areas that were not managed by any level at this moment (e.g., formal assessment of employee satisfaction).

- **Drugs, vaccines, and supplies:** There was no consensus on the responsibility for monitoring compliance with drug protocols, as was the case in Jamaica. All focus groups agreed that provinces and hospitals have the authority to request drugs, vaccines, and supplies but that regardless of these requests, the central drug unit (PROMESE) sends what it wants.

- **Equipment:** Defining how donations are managed (again, as in Jamaica) and responsibility for maintenance and inventory management were areas with no consensus between focus groups.

- **Infrastructure:** The two regions differed in their responses in that Region VII failed to reach a consensus about the responsibility for major building maintenance, while Region V did do so.

- **Health information:** There was no consensus about which management level receives processed information for decision-making nor about which level is responsible for verifying data quality.

The results were then analyzed to examine the focus groups' opinion about the extent of decentralization in managing the various functional areas. This analysis revealed a perception that a high level of centralization still prevails in the country. The areas "Health service delivery" and "Drugs, vaccines, and supplies" were two exceptions. Both regions saw the delivery of health services to be 40% centralized, 30% decentralized, and 30% confused. Regarding the management of drugs, vaccines, and supplies, Region V said that 64% of this area is confused, while Region VII assessed this at 45%. In the other functional areas, both regions perceived the following functions to be highly centralized:

- all financial resources functions, except user fees;
- setting of human resources policy, establishment of new posts, hiring, firing, and salary setting;
- approval of equipment and transport requests and their acquisition;
- planning, approving, and contracting of major construction;
- design of the health information system (e.g., forms, data flow, and reporting frequency).

LESSONS LEARNED ABOUT THE DMT AND ITS APPLICATION

The two field tests yielded a number of important lessons about the DMT and its application. These are described below.

The DMT must always be adapted to the local reality. The DMT must be modified before using it to incorporate the appropriate number and names of management levels in the country. In Jamaica, for example, this required adding a fourth management level, and naming the levels "national," "region," "parish," and "facility." Relevant local terms must be used for management systems or processes. In Jamaica, "VEN list" and "veering" money were locally understood terms that were used for the essential drug list and changing money between budget line items, respectively.

The DMT brings out important information that illuminates managers' understanding of two important concerns of decentralized management. The first is health sector managers' perceptions about the way responsibility and authority are distributed between the country's health sector management levels. This information alone is very valuable for decentralizing countries seeking to ensure that all managers are clear about their new roles and responsibilities. The second type of information that the DMT can provide concerns managers' views about the extent to which responsibility for and authority over the various functions have already been decentralized. Managers in a particular decentralized or decentralizing country may have a high degree of consensus about who is responsible or who has authority, but they

may all agree that very little decentralization has actually been achieved. These two types of information are complementary and, depending on the context, one may be more important.

The DMT assesses perception, not how things are supposed to be managed; however, it is the perception that matters most. If health managers do not perceive that they have any responsibility for or authority over management functions, they will not perform these functions, even if the power has been decentralized to them. Conversely, while higher-level managers may not be in agreement, managers at the decentralized level who perceive that their level has certain responsibilities and authority will seek ways to exercise them. Understanding clearly what the perceptions of managers at different levels are and how they differ from each other is essential for improving management in a decentralized health sector.

Sharing the results of a DMT application widely can generate useful debate and discourse among stakeholders. A DMT analysis reveals areas where consensus is lacking or a considerable level of confusion is apparent. Sharing these findings with stakeholders makes it possible to pinpoint problem areas where joint action is required to find a solution. Such action may involve clarification of roles and responsibilities or collaboration in developing management systems that are still lacking.

The design of the field application is flexible, but it must be appropriate to the goal of the DMT analysis and the country reality. If, for example, the intention is to compare the perceptions of individual provinces with each other, the focus groups must each represent a separate province. This will not provide a full national picture unless every province can be included in the study. A nationally representative snapshot of managers' perceptions can be achieved by including representatives of several provinces in one focus group. Each way of arranging the focus groups has its particular resource implications.

Sensitivity to the local political reality is essential in adapting the way the tool is applied. Every country has its own decentralization process and related conflicts. The team applying the DMT must understand the local context well. The methodology of field application must be adapted to the objectives of the decentralization process and the stage in which this process is.

Clarifying minimum requirements for field application prior to the start is essential. After the goal of applying the DMT has been clarified, decisions must be made about the minimum requirements for the field application. How many management levels will be included in the study, and what are they? Who are the relevant national-level managers, and how can their perceptions best be collected? What is the minimum acceptable composition of the lower-level focus groups in terms of the mix of expertise and number of participants?

Focus groups are the best way to collect managers' perceptions. Focus groups allow participants as a group to clarify the meaning of each question, and to answer questions by consensus. By sharing their areas of expertise, members of the focus group inform each other about the way different functions are (or are understood to be) managed. The use of focus groups can also shorten the process of capturing information.

Each focus group must represent a health service delivery area or a unit to which decentralized management functions have been transferred. Provinces, regions, or hospitals are examples of such delivery areas or units. At a minimum, each management level should be represented by one focus group.

The application of the DMT with lower-level focus groups is quicker if the team has already collected the data from the national level. Focus group discussions or individual interviews with national-level managers improve an external DMT team's understanding of how a country's health system is structured and roles allocated. Such improved comprehension reduces the need to ask for clarification when unfamiliar terminology or names of institutions come up in lower-level focus group discussions.

Care needs to be taken to avoid biasing a focus group's perceptions. The person leading the focus group discussion should not be a member of any of the management teams. It is best that this person come from outside the health system or organization being mapped. Every focus group discussion should start with a blank DMT, and the same determining questions should be asked from each group. Bias is introduced, if, instead, a DMT that has already been filled out by managers at a higher level is shared with a lower-level focus group and the members asked to comment on the answers.

Sufficient time must be allocated to record and analyze the results. Transcribing the answers of the focus groups from the individual DMT forms to the data analysis forms requires attention to detail. It is important to allow at least a day after every three or four focus group interviews for this process. An additional day is needed to analyze the results, color-code them, and produce graphic representations of the results. Further refinement of the data analysis templates may speed up this process slightly.

FUTURE DIRECTIONS

The DMT has gone through a number of refinements from the start of the Jamaica field test to the end of the one in the Dominican Republic. It has now passed the field-test phase and is ready for actual application. As emphasized above, the DMT will always need to be adapted to the context of the country in which it is applied. The same is true of the methodology of field application.

The next step in MSH's work with the DMT under the LACHSR Initiative funding is a regional workshop for senior public-sector policymakers. This workshop, called *Decentralization in the LAC Region: Trends, Trials, Triumphs, and Tools*, will take place in Cuernavaca, Mexico, September 2--3, 2003. It is hosted jointly by MSH and the Instituto Nacional de Salud Pública, Mexico. The objectives of this workshop are to allow those decision-makers who are already familiar with the use of the DMT in Jamaica and the Dominican Republic to share their experiences, and to give others an opportunity to experiment with the tool. The workshop will also provide a valuable venue for identifying and articulating the most important challenges that these countries face in the decentralization process, as well as for exploring working solutions.

During 2003–2004, MSH expects to work with interested countries in Latin America and the Caribbean region in applying the DMT. The lessons will be shared with interested partners at national and international levels through publications and relevant meetings.

Annex I. Decentralization Mapping Tool (March 10, 2003 version, Jamaica)

Worksheet I Template: DECENTRALIZATION OF FUNCTIONS BY MANAGEMENT LEVEL

The functional areas, functions, and management levels are suggestions. If necessary, modify them to fit the country situation.

Country: **Person(s) interviewed:**

Organization:

Management level: **Date:**

FUNCTIONAL AREA: FINANCIAL RESOURCES

FUNCTION	DETERMINING QUESTIONS	NATIONAL	REGIONAL	PARISH	FACILITY	COMMENTS
F1. Formulating health sector financial policies	Who is responsible for formulating health sector financial policies?					
	Who determines, if revenue can be retained?					
F2. Establishing the budget structure	Who defines the budget line items?					
	Who defines cost centers?					
F3. Establishing expenditure reporting requirements	Who defines report content?					
	Who defines report frequency?					
	To whom are you accountable for expenditure?					
F4. Determining budget amounts	Who formulates the budget request for your level?					
	Who decides revenue targets?					
F5. Obtaining budgeted funds	Who formulates the request for cash flow?					
	Who decides on it?					
	What is the distribution of sources of funding?					
F6. Managing the budget	Who monitors the budget?					
	Who can change (veir) the budget lines?					
	What is your petty cash limit and who sets it?					
F7. Establishing income reporting requirements	Who decides how frequently to report income?					
	To whom are you accountable for income?					

Worksheet I Template: DECENTRALIZATION OF FUNCTIONS BY MANAGEMENT LEVEL

The functional areas, functions, and management levels are suggestions. If necessary, modify them to fit the country situation.

Country: **Person(s) interviewed:**

Organization:

Management level: **Date:**

FUNCTIONAL AREA: PERSONNEL

FUNCTION	DETERMINING QUESTIONS	NATIONAL	REGIONAL	PARISH	FACILITY	COMMENTS
P1. Formulating personnel policy and planning	Who is responsible for formulating personnel policy?					
	Who is responsible for human resource planning?					
P2. Hiring, firing and transfer of employees	Who hires pensionable staff?					
	Who fires?					
	Who transfers within the management level?					
	Who transfers between management levels?					
	Who hires contract staff?					
	Who fires?					
	Who transfers within the management level?					
	Who transfers between management levels?					
P3. Establishing employees' compensation and incentive packages	Who decides compensation systems?					
	Who decides financial incentive packages?					
P4. Paying salaries and incentives	Who decides at what point on a salary scale a new employee will be paid?					
	Who decides who gets any financial incentive package?					
	Who negotiates with unions?					
P5. Managing disciplinary procedures for professional staff	Who defines the disciplinary measures?					
	Who applies them to professional staff?					
P6. Managing disciplinary procedures for non-professional staff	Who defines the disciplinary measures?					
	Who applies them to non-professional staff?					
P7. Administering routine personnel matters	Who authorizes leaves?					
	Who monitors attendance?					
P8. Evaluating employee performance	Who designs the performance evaluation system?					
	Who applies it?					
P9. Developing personnel (career development and training)	Who assesses personnel development needs?					
	Who authorizes non-inservice training?					
	Who pays for it?					
P10. Managing employee motivation	Who assesses employee satisfaction?					
	Who is responsible for taking action?					

Worksheet I Template: DECENTRALIZATION OF FUNCTIONS BY MANAGEMENT LEVEL

The functional areas, functions, and management levels are suggestions. If necessary, modify them to fit the country situation.

Country: **Person(s) interviewed:**

Organization:

Management level: **Date:**

FUNCTIONAL AREA: DRUGS AND SUPPLIES

FUNCTION	DETERMINING QUESTIONS	NATIONAL	REGIONAL	PARISH	FACILITY	COMMENTS
D1. Determining the drug list	Who determines the VEN (essential) drug list?					
	Who authorizes exceptions?					
D2. Determining quantities to be procured	Who decides the quantities?					
	Who authorizes changes?					
D3. Procuring the drugs and supplies	Who is normally responsible for procuring?					
	Who authorizes exceptions?					
	Is there a financial ceiling for exceptions?					
D4. Verifying drug quality	Who designs quality standards and quality assessment procedures?					
	Who monitors compliance?					
D5. Distributing the drugs and supplies	Who is responsible for distribution?					
D6. Defining standard treatments	Who defines drug protocols?					
	Who monitors their use?					
D7. Monitoring the drug and supply system	Who monitors the efficiency and transparency of the system? (e.g., cost of drugs, rate of expiry, inventory levels, etc.)					

Worksheet I Template: DECENTRALIZATION OF FUNCTIONS BY MANAGEMENT LEVEL

The functional areas, functions, and management levels are suggestions. If necessary, modify them to fit the country situation.

Country: **Person(s) interviewed:**

Organization:

Management level: **Date:**

FUNCTIONAL AREA: EQUIPMENT

FUNCTION	DETERMINING QUESTIONS	NATIONAL	REGIONAL	PARISH	FACILITY	COMMENTS
E1. Determining equipment needs	Who identifies medical equipment needs?					
	Who identifies nonmedical equipment needs?					
E2. Approving equipment requests	Who approves equipment requests?					
	Up to what financial limit?					
E3. Acquiring equipment	Who defines what equipment can be acquired for each level of facility?					
	Who determines the procurement process?					
E4. Maintaining equipment	Who is responsible for maintaining equipment?					
E5. Managing gifts and donations	Who defines how gifts and donations are managed?					
	Who manages compliance?					

Worksheet I Template: DECENTRALIZATION OF FUNCTIONS BY MANAGEMENT LEVEL

The functional areas, functions, and management levels are suggestions. If necessary, modify them to fit the country situation.

Country: **Person(s) interviewed:**

Organization:

Management level: **Date:**

FUNCTIONAL AREA: INFRASTRUCTURE

FUNCTION	DETERMINING QUESTIONS	NATIONAL	REGIONAL	PARISH	FACILITY	COMMENTS
I1. Determining infrastructure needs	Who plans infrastructure development?					
I2. Approving infrastructure requests	Who approves infrastructure requests?					
	Up to what financial limit?					
I3. Developing the infrastructure	Who defines the procurement process (e.g., type of tendering)?					
I4. Maintaining the infrastructure	Who is responsible for maintaining infrastructure?					

Worksheet I Template: DECENTRALIZATION OF FUNCTIONS BY MANAGEMENT LEVEL

The functional areas, functions, and management levels are suggestions. If necessary, modify them to fit the country situation.

Country: **Person(s) interviewed:**

Organization:

Management level: **Date:**

FUNCTIONAL AREA: HEALTH SERVICE DELIVERY

FUNCTION	DETERMINING QUESTIONS	NATIONAL	REGIONAL	PARISH	FACILITY	COMMENTS
S1. Defining strategic objectives	Who decides strategic objectives?					
	Who set targets?					
S2. Defining service packages	Who decides the minimum service package at each level of facility?					
S3. Defining the service network	Who decides the organization of service delivery at your level?					
S4. Defining clinical standards and procedures	Who defines clinical standards and procedures?					
	Who monitors compliance?					
S5. Monitoring the health delivery system	Who monitors the achievement of strategic objectives and targets?					
S6. Contracting technical services	Who decides what technical services can be contracted out?					
	Up to what financial limit?					
	Who is responsible for monitoring compliance with contracts?					
S7. Contracting support services	Who decides what support services can be contracted out?					
	Up to what financial limit?					
	Who is responsible for monitoring compliance with contracts?					

Worksheet I Template: DECENTRALIZATION OF FUNCTIONS BY MANAGEMENT LEVEL

The functional areas, functions, and management levels are suggestions. If necessary, modify them to fit the country situation.

Country: **Person(s) interviewed:**

Organization:

Management level: **Date:**

FUNCTIONAL AREA: HEALTH INFORMATION

FUNCTION	DETERMINING QUESTIONS	NATIONAL	REGIONAL	PARISH	FACILITY	COMMENTS
H1. Designing the health information system	Who determines what data will be recorded?					
	Who designs the forms?					
	Who determines the flow of data?					
	Who determines the level of information technology?					
H2. Implementing the health information system (collection, processing, analysis, and reporting)	Who records the data?					
	Who analyzes the data?					
	Who develops the reports?					
	Who receives the reports?					
	Who uses the reports?					
H3. Monitoring the health information system and validating the data	Who validates the data?					
	Who monitors the processes of the system?					
	Who monitors the use of information?					

Annex 2. Decentralization Mapping Tool (June 26, 2003 version, Dominican Republic)

Decentralization Map

Country: **Respondent(s):**

Institution:

Management level: **Date:**

Note: Before beginning, explain that "What level" in the "Determining Questions" column means "What management level."

FUNCTIONAL LEVEL: HEALTH SERVICE DELIVERY

FUNCTION	DETERMINING QUESTIONS	NATIONAL	REGIONAL	PROVINCIAL	FACILITY	COMMENTS
S1. Defining health service targets	What level sets health service targets for the operational level?					
S2. Defining service packages	What level determines the minimum service package for each level of care?					
S3. Defining the service network	What level determines the organization of the health service network?					
S4. Defining and supervising clinical standards and procedures	What level determines clinical standards and procedures?					
	What level is responsible for ensuring compliance with those standards at the operational level?					
S5. Monitoring health service provision	What level is responsible for ensuring the achievement of health service targets at the operational level?					
S6. Outsourcing services	What level has the authority to outsource clinical/technical services?					
	What level has the authority to outsource support services?					
	What level is responsible for ensuring compliance by those who deliver outsourced services?					

Decentralization Map

Country: **Respondent(s):**

Institution:

Management level: **Date:**

Note: Before beginning, explain that "What level" in the "Determining Questions" column means "What management level."

FUNCTIONAL AREA: FINANCIAL RESOURCES

FUNCTION	DETERMINING QUESTIONS	NATIONAL	REGIONAL	PROVINCIAL	FACILITY	COMMENTS
F1. Formulating financial policies for the health sector	What level decides what user fees to charge (if any), and in what amount?					
	What level decides on revenue targets for the various management levels?					
	If user fees are charged, at which management level(s) is the money retained?					
F2. Establishing the budget structure	What level determines how the budget is structured (i.e., line items)?					
	What level defines the cost centers?					
F3. Establishing expenditure and revenue reporting requirements	What level defines the content and frequency of expenditure reports?					
	To what level are the operational levels accountable for expenditure?					
	To what level are the various management levels accountable for their revenue?					
F4. Determining the budget request	What level is responsible for preparing the budget for the operational levels?					
F5. Obtaining budgeted funds	What level has the final say on the amount of budgeted funds that the operational levels actually receive?					
F6. Managing the budget	To what level are the various management levels accountable for managing their budgets?					
	What level has the authority to re-program (veir) budget lines?					
	What level sets petty cash limits and/or imprest account limits for the various management levels?					

Decentralization Map

Country: **Respondent(s):**

Institution:

Management level: **Date:**

Note: Before beginning, explain that "What level" in the "Determining Questions" column means "What management level."

FUNCTIONAL AREA: PERSONNEL

FUNCTION	DETERMINING QUESTIONS	NATIONAL	REGIONAL	PROVINCIAL	FACILITY	COMMENTS
P1. Formulating personnel policy and planning	What level is responsible for formulating personnel policy (e.g., policy on hiring, firing, compensation)?					
	What level authorizes the creation of new posts?					
P2. Hiring, firing and transfer of professional staff (e.g., doctors, nurses, accountants)	What level must approve the hiring of professional staff?					
	What level must approve the firing of professional staff?					
	What level must approve the transfer of professional staff?					
P3. Hiring, firing, and transfer of other staff	What level must approve the hiring of other staff?					
	What level must approve the firing of other staff?					
	What level must approve the transfer of other staff?					
P4. Establishing compensation and incentive packages	What level has the authority to make changes in the compensation system (e.g., levels of pay, salary scales)?					
	What level is responsible for defining retirement benefits?					
	What level has the authority to implement a financial incentives package?					

Decentralization Map

Country: **Respondent(s):**

Institution:

Management level: **Date:**

Note: Before beginning, explain that "What level" in the "Determining Questions" column means "What management level."

P5. Paying salaries and incentives	What level has the authority to determine at what point on a salary scale a new employee will be paid?					
	What level has the authority to award a financial incentives package to an employee?					
	What level negotiates with labor unions over salaries and incentives?					
P6. Managing disciplinary procedures for professional staff	What level defines disciplinary measures for professional staff?					
	What level has the authority to apply such measures to professional staff?					
P7. Managing disciplinary procedures for other staff	What level defines disciplinary measures for other staff?					
	What level has the authority to apply such measures to other staff?					
P8. Legal protection	What level is responsible for providing legal support to health personnel is cases of alleged negligence or malpractice?					
	What level has the authority to represent the institution in the event of a labor-related lawsuit?					
P9. Administering routine personnel matters	What level authorizes sick leave or leave for personal reasons?					
P10. Evaluating employee performance	What level defines the performance evaluation system?					
P11. Developing personnel (career development and training)	What level is responsible for conducting a formal evaluation of personnel training needs?					
	What level is responsible for providing the training for personnel?					
	What level authorizes leave for training purposes?					
P12. Managing employee motivation	What level is responsible for conducting a formal assessment of employee satisfaction?					
	What level is responsible for preparing a formal action plan for improving employee satisfaction?					

Decentralization Map

Country: **Respondent(s):**

Institution:

Management level: **Date:**

Note: Before beginning, explain that "What level" in the "Determining Questions" column means "What management level."

FUNCTIONAL AREA: DRUGS, VACCINES, AND SUPPLIES

FUNCTION	DETERMINING QUESTIONS	NATIONAL	REGIONAL	PROVINCIAL	FACILITY	COMMENTS
D1. Determining the drug list	What level determines the essential drugs list?					
	What level authorizes the purchase of drugs outside the list?					
D2. Determining the quantities of drugs, vaccines, and supplies to be procured	What level has the authority to request drugs and supplies for health facilities and programs?					
	What level has the authority to request vaccines?					
D3. Procuring drugs, vaccines, and supplies	What level has the authority to procure drugs and supplies?					
	What level can authorize drug purchases outside the normal system?					
	What level has the authority to procure vaccines?					
	What level can authorize purchases of vaccines outside the normal system?					
D4. Distributing drugs and supplies	What level is responsible for distributing drugs and supplies from their point of purchase to the operational level?					
	What level is responsible for distributing vaccines from their point of purchase to the operational level?					
D5. Defining standard treatments	What level defines standard treatment protocols?					
	What level is responsible for verifying compliance with such protocols?					
D6. Verifying drug quality	What level determines quality standards for the drugs that are included in the essential drugs list?					
	What level monitors to ensure that the drugs in the essential drugs list meet the established standards?					
D7. Monitoring the drugs, vaccines, and supplies system	What level is responsible for the proper management of drugs and supplies at the operational level?					
	What level is responsible for the proper management of vaccines at the operational level?					

Decentralization Map

Country: **Respondent(s):**

Institution:

Management level: **Date:**

Note: Before beginning, explain that "What level" in the "Determining Questions" column means "What management level."

FUNCTIONAL AREA: EQUIPMENT AND TRANSPORT

FUNCTION	DETERMINING QUESTIONS	NATIONAL	REGIONAL	PROVINCIAL	FACILITY	COMMENTS
E1. Acquiring equipment	What level authorizes the type of equipment that each management level can acquire?					
	What level defines the procurement process for acquiring equipment?					
E2. Approving equipment requests	What level has the authority to approve equipment requests?					
E3. Maintaining equipment	What level is responsible for maintaining an inventory of fixed assets?					
	What level is responsible for equipment maintenance?					
E4. Acquiring and managing transportation	What level has the authority to decide the type and quantity of vehicles for the operational level (e.g., ambulances, vehicles for supervision)?					
	What level has the authority to purchase the vehicles?					
	What level has the authority to assign the vehicles?					
E5. Managing gifts and donations	What level has the authority to decide what gifts and donations the operational level can receive?					

Decentralization Map

Country: **Respondent(s):**

Institution:

Management level: **Date:**

Note: Before beginning, explain that "What level" in the "Determining Questions" column means "What management level."

FUNCTIONAL AREA: CAPITAL CONSTRUCTION AND MAINTENANCE

FUNCTION	DETERMINING QUESTIONS	NATIONAL	REGIONAL	PROVINCIAL	FACILITY	COMMENTS
I1. Determining infrastructure needs	What level has the authority to decide the type and size of major construction and maintenance projects (e.g., a new building or a substantial renovation)?					
I2. Approving infrastructure requests	What level has the authority to approve such requests for significant construction or renovation?					
I3. Contracting for infrastructure development	What level defines the procurement process for contracting (e.g., type of tender process) that has to be followed?					
	What level issues the contract for carrying out new construction or significant renovation?					
I4. Maintaining the infrastructure	What level is responsible for major building maintenance (e.g., weatherproofing and general painting)?					

Decentralization Map

Country: **Respondent(s):**

Institution:

Management level: **Date:**

Note: Before beginning, explain that "What level" in the "Determining Questions" column means "What management level."

FUNCTIONAL AREA: HEALTH INFORMATION

FUNCTION	DETERMINING QUESTIONS	NATIONAL	REGIONAL	PROVINCIAL	FACILITY	COMMENTS
H1. Designing the health information system	What level authorizes changes in the type of data that the health information system collects?					
	What level authorizes changes in data collection forms, data flow, and reporting frequency?					
	What level authorizes the purchase of computer hardware and software for the health information system?					
H2. Ensuring access to health information	What level receives the processed health information in order to assess your performance (i.e., the performance of your management level)?					
H3. Supervising the health information system	What level is responsible for ensuring that the health information gathered at the operational level is complete, valid, and timely?					